Transatlantic Innovation Dialogue

- Perspective of the Automotive Industry -

January 2010

VDA Verband der Automobilindustrie

Low Carbon Technology

Against the backdrop of the discussion on climate change and the finite nature of oil reserves, it is necessary to define *ex ante* a largely harmonized strategy "moving away from oil" that will allow the long-term switch to post-fossil mobility. The key criteria of this strategy are a further rise in the efficiency of vehicle powertrains in the direction of the "zero-emissions vehicle" and fuels based on renewable energy sources.

The Unites States and Europe are the key players in the automobile sector. In the year 2009, despite the dramatic falls in production figures in the US in particular, the EU and the US taken together still accounted for almost 40 per cent of total world production of passenger cars. Due to this, both parties should have strong shared interests in accelerating the deployment of zero emissions vehicles.

In this context, the focus of attention rests mainly on electric mobility and biofuels. The latter are particularly important in view of the lack of alternatives for heavy commercial vehicles. But hydrogen is also very important as an alternative fuel.

Electric mobility

"Electric vehicles," with their different forms have become a strong subject of public discussion. Expectations concerning the number of electric vehicles on the roads in the medium term vary widely. Moreover, issues concerning cooperation with the energy industry, network integration, infrastructure and the charging stations have not yet been answered comprehensively.

When formulating joint activities between the US and Europe, electric mobility should be considered in all its dimensions. This means both, battery electric vehicles (BEV) and hydrogen, fuel cell electric vehicles (FCEV). Activities between the US and Europe in this context should include:

1) **Joint standards development**

   Within transatlantic economic integration, the main issue is ultimately the specific question regarding standardization that should be addressed jointly. Parallel developments and special market-specific solutions cause unnecessary costs due to the market-specific vehicle designs that are then required, which can be avoided with harmonized overall conditions and standards.

   a. **Joint standardization of charging interface:** At this time the charging interface is regarded as the most urgent requirement in standardization.

      - This is a very complex system, with issues relating not only to voltage and amperage, but also to the hardware (plug-in connector) and the software for communicating with the network operator / electricity provider for settling accounts and determining the requirements.

- A globally standardized and forward-looking solution should be found for reducing costs. The relevant bodies in the standardization organizations

    - SAE (Society of Automotive Engineers),
    - ISO (International Organization for Standardization) and
    - IEC (International Electrotechnical Commission)

  should work together as far as possible straightforwardly and without any reservations, to bring about the best possible result.

b. **Joint standardization of power electronics:** The second focus is on the standardization of power electronics which is necessary for controlling the “high voltage system” in the vehicle (control electronics, fuses, connectors, etc.)

- At present these activities are continuing, but as yet there has not been much progress.
- Strong coordination is called for between SAE and ISO.

c. **Joint standards on energy storage systems:** Work is continuing on safety standards (electric vehicle, battery) and quality & performance requirements (testing standards) for the energy storage systems.

2) **Clear political roadmap:** It is important to create clear political framework conditions for electric mobility concerning the promotion of and preparations for attractive, technology-neutral conditions for electric mobility

    - to encourage OEMs to invest in new technologies (R&D needs) and
    - to create demand among customers.

3) **Joint demonstrations and projects to accelerate commercialization:** link US and European cities with electric vehicle demonstration programs to collect and share data on charging patterns, driving experiences, consumer preferences etc.

4) **Joint public engagement:** Bring together key stakeholders in both countries to share information on best practices and identify new areas for collaboration

Biofuels

The automotive industry supports the growing proportion of renewable fuels in the EU, the US and the expanding emerging markets, which are becoming more important all the time. However, some conditions are of key importance here.

- Biofuels must be available in sufficient **quality**. Some of the “first generation” biofuels reach their limits regarding this point. It is therefore necessary to have internationally harmonized quality standards (e.g. ISO standardization).

- The use of biofuels in the field of transport requires substantial investment in production, distribution and application. For this reason the **number of different biofuels** should be restricted to the most important ones.

- A **holistic approach** is needed to climate protection.

    - Against this backdrop, it is important to know to what degree the different biofuels change the CO_2 balance (measured taking a **“well to tank” approach)**, as far as possible with globally harmonized calculation guidelines.

    - **Sustainability standards** should be met to ensure political acceptance. For example, wherever possible the production of biofuels must be prevented from competing with food production. Biofuels, in particular second generation fuels, should be certified accordingly in respect of their environmentally sound production and the minimum standards of the International Labour Organization (ILO).

The **VDA** nationally and internationally promotes the interests of the entire German automotive industry. It can bank on a strong power base of members consisting of automobile manufacturers, suppliers and manufacturers of trailers, special bodies and containers. Unlike in many other countries, they are organized under one association, resulting in decisive advantages for the German automotive industry through direct dialogue and rapid decision-making. The VDA currently has more than 600 member companies.